VERSION 02/2007

Ministry of Works, Transport and Communication
Department of Works

AN INTRODUCTION TO

Engineering Professions Act, 1986: Regulations Regarding the Tariff of Consulting Fees for Professional Engineers or Incorporated Engineers

known as the

"The Government Gazette"

Presented by:

Association of Consulting Engineers of Namibia
P O Box 25837, Windhoek, Namibia
Tel: 227672
Fax: 220980
e-mail: acen@ mweb.com.na

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IMPORTANT NOTICE

This document was presented during a seminar regarding Professional Fees and accounts to various officials of the Capital Project Management team of the Department of Works during July and August 2007.

The purpose of the seminar was to raise awareness regarding the use of the Government Gazette for the calculation and payment of Professional Fees to Consulting Engineers, with specific reference to ACEN members.

On occasion the Gazette is not entirely clear, and in one instance a heading is incorrect. On the rare occasion where interpretation has been necessary this has been indicated in the text.

The Version 1 document included example professional fee accounts, the use of which was agreed with the consultant to whom we extend our appreciation. These examples are not included in this Version 2.

If any errors in fact or interpretation are identified please inform:

Peter Forster
Executive Officer
Association of Consulting Engineers of Namibia

Email: forsters@namibnet.com
Fax:: Windhoek 305 498

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1. INTRODUCTION

Consulting Engineers' fees are due and payable in three categories as follows:

- Percentage based fees
- Hourly tariff fees
- Disbursements

Fee accounts often include all three of these components.

The document used by the Department (and the Government in general) to calculate fees is the Government Notice Number 24 of 1993 entitled "*Engineering Professions Act, 1986: Regulations Regarding the Tariff of Consulting Fees for Professional Engineers or Incorporated Engineers*"

This document is currently referred to as the Government Gazette, or more simply as *The Gazette*.

In addition to the Gazette, the appropriate hourly tariffs are amended from time to time. The latest applicable amendment was given in Government Notice Number 109 of 2006.

Together the Government Notices cover all aspects of Professional Fees and Hourly Tariffs.

Disbursements are claimed by agreement against a schedule produced by the Department. The schedule is updated on a regular basis to cater for the effects of inflation and the changing demands produced by technological developments.

2. GENERAL PRINCIPLES FOR PERCENTAGE BASED FEES

Throughout this section the fees for Structural and Civil Engineering Services pertaining to Building Projects will be used for example purposes. The fees can be found under section 3.3.1.1 on page 49 of the Gazette.

The principles listed also apply to all other fee tables given in the Gazette for other Engineering Services.

The table 3.3.1.1 is given below:

	Where the cost of the works –		The fee is the sum of the primary fee set out in column 3 and the secondary fee calculated in accordance with column 4	
	Exceeds –	But does not exceed –	Primary fee	Secondary fee: Calculated on the total cost of the works at the following percentage
	Column 1	Column 2	Column 3	Column 4
	R	R	R	%
	-	335 000	1 000	10.5
Example: N$ 1 750 000-00	335 000	677 000	4 350	9.5
	677 000	1 690 000	11 120	8.5
	1 690 000	3 380 000	**19 570**	**8.0**
	3 380 000	6 753 000	36 470	7.5
	6 753 000	16 886 0900	70 235	7.0
	16 886 0900	And over	154 665	6.5

The fee as described in the table is:

Fee = *primary fee* + cost of works x *secondary fee %*

The cost of works is compared to the bracket between columns 1 and 2 in which it fits and the appropriate primary fee (column 3) and secondary fee (column 4) for that bracket is applied. It is important to note that the primary and secondary fees are used as given and are ***not*** interpolated between values.

As an example, if the cost of the works is N$ 1 750 000-00 then the fee will be:

Bracket: N$ 1 750 000-00 lies in the bracket between N$ 1 690 000-00 and N$ 3 380 000-00

Therefore,

Fee = ***N$ 19 570*** + N$ 1 750 000-00 x ***8.0%*** = N$ 159 570-00

Since the fee is part of a professional service, Value Added Tax at 15% must be added.

It is important to note that the purpose of the primary fee is **not** to act as a sort of basic or up front payment. The only purpose of the primary fee is to balance out the fees where one bracket joins the next.

For example, if the cost of a project was N$ 677 000-00 then the fees would sit on the point between two brackets. Calculated ***without*** the primary fee, the fees would be:

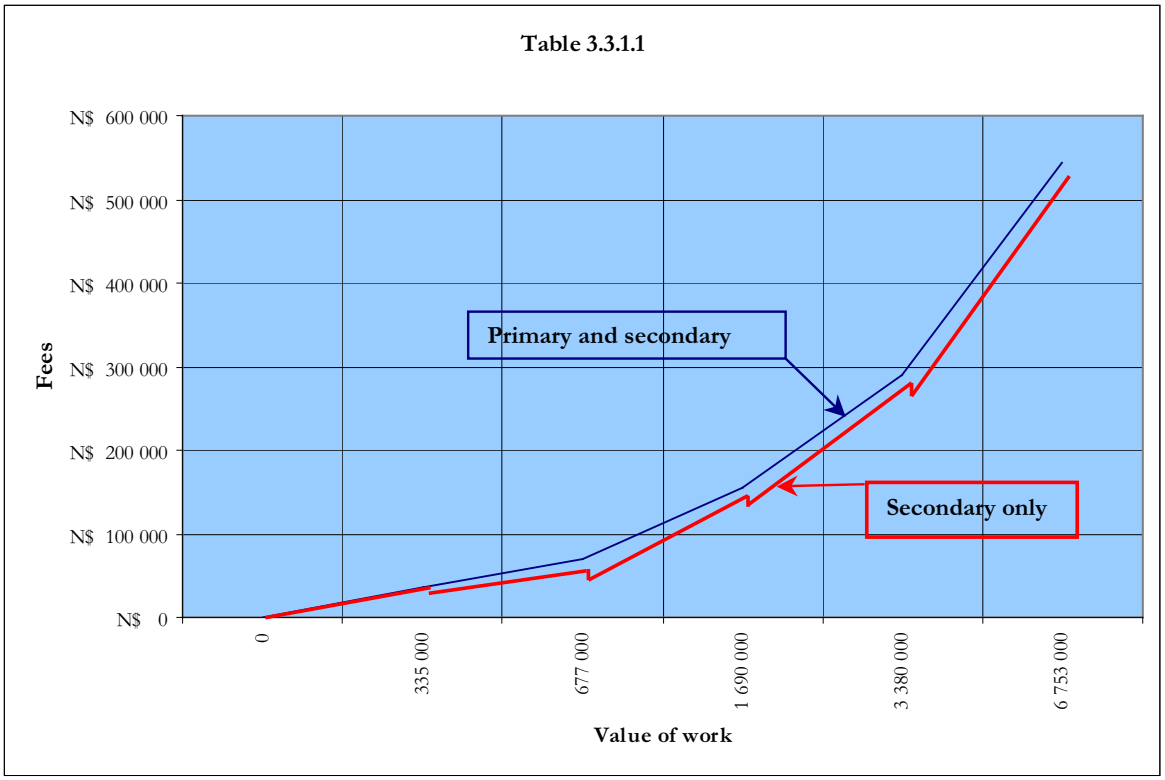
Lower bracket: 9.5% x 677 000-00 = N$ 64 315-00

Higher bracket: 8.5% x 677 000-00 = N$ 57 545-00

To cater for this, N$ 6 770-00 must be added to the higher bracket to make the fees compatible. Obviously this applies also to the brackets below and the affect is cumulative. The missing N$ 6 770-00 must be added to the primary fee from the previous bracket (N$ 4 350-00 in this case) to give the total of N$ 11 120-00 as shown in the table.

In other words the primary fee simply serves to smooth the curve between the brackets in the fee table. ***The fee is therefore a total and not two parts***.

The influence is shown in the graph below:



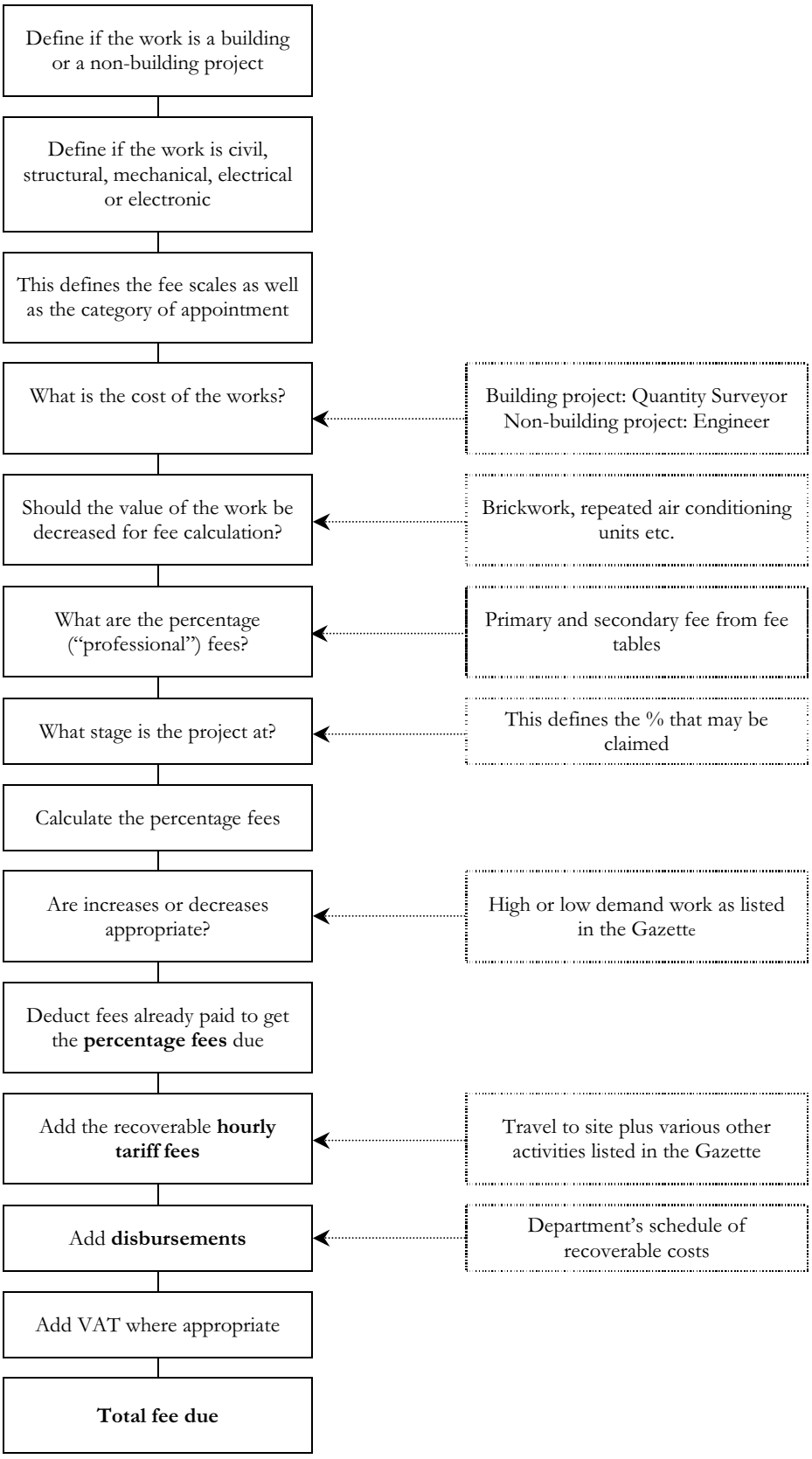
The jagged red line shows the fees without the primary fee, the smooth blue line shows the fees with the primary fee included.

The fee may also be increased or decreased for certain types of work. For instance if the project were ***wet services*** the fee would be increased by 25% (item 3.3.1.3 on page 49). For the N$ 1 750 000-00 project used in the first example this would then be:

Fee = *N$ 159 570-00* x 1.25 = N$ 199 462-50

Both increases and decreases to the percentage fees are given in the Gazette.

The overall fee process is indicated below:



These steps are discussed below.

3. CATEGORIES OF PROJECTS

The Gazette divides Engineering Services into two basic groups; services that relate to building projects and those that do not. In addition, each group is divided into the more specific divisions of Civil, Structural, Mechanical, Electrical and Electronic Engineering Services.

In the case of services that to do not relate to building projects there are extra categories for reinforced concrete and structural steel. For services pertaining to building projects there is a further category for wet services.

Each category has a separate fee schedule.

Categories have further stipulations in terms of work making high or low demands, fragmented work, works in different categories, alterations and the like.

To all intents and purposes ***building projects*** normally include an Architect, Engineer and Quantity Surveyor where the Architect is the principal agent. In this case the Architect is responsible for the building drawings whilst the Quantity Surveyor is responsible for the contract document including schedules of quantity.

Non-building projects normally reflect services where only the Engineer is appointed or he is appointed as the leader of the professional team. Projects of this nature require the Engineer to produce full documentation inclusive of reports, designs, drawings, schedules of quantity and contract documents. On occasion a non-building project can include a small building component.

Each category, with the appropriate fee schedule and Gazette page, is listed below:

Non-building projects	**Civil and Structural**	Table 2.3.1.1.1	p. 24
	- additional: reinforced concrete	Table 2.3.1.1.2	p.25
	- additional structural steelwork	Table 2.3.1.1.3	p. 25
	Mechanical	Table 2.3.1.4.1	p. 27
	Electrical	Table 2.3.1.4.2	p. 28
	Electronic	Table 2.3.1.5.1	p. 29
Building projects	**Structural and Civil**	Table 3.3.1.1	p.49
	Mechanical	Table 4.3.1.1.1	p.49
	- additional: schedule of quantities	Table 4.3.3.3.1	p.73
	Electrical	Table 4.3.1.1.2	p.49
	- additional: schedule of quantities	Table 4.3.3.3.2	p.74
	Electronic	Table 4.3.1.2.1	p.49

4. FEES FOR PROJECT STAGES

All categories allow fees to be paid at various stages of the project. All categories also make provision for full or partial services.

The first stage in each category is the **Report Stage**. This stage is treated differently to the remainder of the project and is consequently conducted using hourly tariffs. In many cases a feasibility study has already been conducted to ascertain budgeting requirements and to confirm the project brief. In these instances no report stage is required.

Should a **Report Stage** be required then an appropriate credit may be given in the **Preliminary Design Stage** for the value of design work conducted in the Report Stage, which can be utilised in the development of preliminary designs. This would only be applicable where the Report Stage is in fact a stage of the overall project – i.e. it is part of the same project and conducted by the same consultant.

For the remainder of the project, fees become due as a percentage of the overall fee for the project as calculated using the appropriate table.

The percentages for the various stages of the service categories are listed below. This table applies where the full scope of services is required (i.e. ***full normal services***):

Category	Preliminary	Design/ tender	Construction			Page
			Working drawings	Construction	Final completion	
Non-building projects:						
Civil and Structural	20 %	40 %	15 % *	25 %	-	17
- additional: reinforced concrete	20 %	40 %	15 % *	25 %	-	24
- additional structural steelwork	20 %	40 %	15 % *	25 %	-	25
Mechanical	20 %	40 %	-	40 %	-	18
Electrical	20 %	40 %	-	40 %	-	18
Electronic	20 %	40 %	-	40 %	-	18
Building projects:						
Structural and Civil	20 %	35 %	30 % *	12.5 %	2.5 %	41
Mechanical	20 %	40 %	-	35 %	5 %	61
- additional: schedule of quantities	-	70 %	-	10 %	20 %	62
Electrical	20 %	40 %	-	35 %	5 %	61
- additional: schedule of quantities	-	70 %	-	10 %	20 %	62
Electronic	20 %	40 %	-	35 %	5 %	61

* If working drawings are provided for tender purposes this is claimable on completion of the design

For various reasons it is sometimes required that only some of the full services are required. This is known as ***partial normal services*** and the appropriate percentages are listed below. It may be noted that the percentages for partial services are higher than those for full service. In each case the percentage refers to the overall full fee calculated as if the full normal services would have been required:

Category	Preliminary design only	Preliminary design and tender only	Preliminary design, tender and full working drawings	Construction only	Page
Non-building projects:					
Civil and Structural	30 %	70 %	85 %	35 %	18
- additional: reinforced concrete	-	-	100 %	-	19
- additional structural steelwork	-	-	100 %	-	19
Mechanical	30 %	70 %	-	50 %	20
Electrical	30 %	70 %	-	50 %	20
Electronic	30 %	70 %	-	50 %	20
Building projects:					
Structural and Civil	30 %	60 %	90 %	25 %	42
Mechanical	30 %	70 %	-	50 %	61
- additional: schedule of quantities	-	70 %		30 % *	
Electrical	30 %	70 %	-	50 %	61
- additional: schedule of quantities	-	70 %		30 % *	
Electronic	30 %	70 %	-	50 %	61

* Excluding the preparation of the schedules, 100 % if preparation included.

5. COST OF WORKS

1. Civil, Structural, Mechanical, Electrical or Electronic Engineering Services for non-building projects

In this case the Engineer is responsible for the ***whole scope of the works***. The cost of the works includes the following:

- The full value of the works designed, specified or administered by the Engineer as certified for payment to the contractor(s) prior to deduction of penalties, retention and the like. *2.2.3.1.1*

- Escalation, if this is included in the payments to the contractor(s). The full value of the escalation is applied to the construction fees but is limited to a maximum of 10% of the original contract amount minus contingencies and VAT for the pre-construction fees. *2.2.3.4 2.2.3.4.1 2.2.3.4.2*

- Fair evaluation if the contractor receives free labour or free or second hand material etc. *2.2.3.1.2 2.2.3.1.3*

- The cost of any drilling etc for which the consultant is responsible that is not paid elsewhere. *2.2.3.1.4*

- If the service is provided as a sub-contract or a larger project, a fair proportion of the Preliminary and General charges from the main contract. *2.2.3.2*

- Value Added Tax.

Note that Gazette heading under section 2.2 on page 17 is incorrect and should read as per the same heading given in the index on page 3.

2. Structural and Civil Engineering Services pertaining to building projects

Here the Engineer is ***not*** responsible for the full scope of the overall works. The cost of the works includes the following:

- The full value of the works designed, specified or administered by the Engineer as certified for payment to the contractor(s) prior to deduction of penalties, retention and the like. *3.2.3.1.1*

- Escalation, if this is included in the payments to the contractor(s). The full value of the escalation is applied to the construction fees but is limited to a maximum of 10% of the original contract amount minus contingencies and VAT for the pre-construction fees. *3.2.3.3 3.2.3.3.1 3.2.3.3.4*

- Fair evaluation if the contractor receives free labour or free or second hand material etc. *3.2.3.1.2 3.2.3.1.3*

- Temporary works specified. *3.2.3.1.4*

- Excavations and foundations if specified. *3.2.3.1.5* *3.2.3.1.9*
- Reinforced concrete, formwork, structural members etc if specified inclusive of cladding, decorative work, builders work, inserts. *3.2.3.1.6* *3.2.3.1.7*
- Cladding, decorative work, builders work, inserts etc if specified. *3.2.3.1.10* *3.2.3.1.11* *3.2.3.1.12*
- The cost of any drilling etc for which the Engineer is responsible that is not paid elsewhere. *3.2.3.1.13*
- The full cost of preliminary and general items relating directly to the Engineering works *3.2.3.1.14.1*
- If the service is provided as a sub-contract or a larger project, a fair proportion of the Preliminary and General charges form the main contract, comprising of the full cost of preliminary and general items relating directly to the Engineering works a proportion of the remainder proportional to the cost of the Engineering works. *3.2.3.1.14.2*
- Value Added Tax.

3. Mechanical, Electrical and Electronic Engineering Services pertaining to building projects

Again the Engineer is ***not*** responsible for the full scope of the overall works, the cost of the works includes the following:

- The full value of the works designed, specified or administered by the Engineer as certified for payment to the contractor(s) prior to deduction of penalties, retention and the like. *4.2.3.1.1*
- Escalation, if this is included in the payments to the contractor(s). The full value of the escalation is applied to the construction fees but is limited to a maximum of 10% of the original contract amount minus contingencies and VAT for the pre-construction fees. *4.2.3.4* *4.2.3.4.1* *4.2.3.4.2*
- Fair evaluation if the contractor receives free labour or free or second hand material etc. *4.2.3.1.2* *4.2.3.1.3*
- One third (or otherwise if agreed) of the cost of chimneys or ducts if specified. *4.2.3.1.4*
- The cost of any drilling etc for which the consultant is responsible that is not paid elsewhere. *4.2.3.1.5*
- The allowance in the main contract for profit and attendance on the works. *4.2.3.2.1*
- The costs of builders work specified by the Engineer required in connection with the works. *4.2.3.2.2*
- The full cost of preliminary and general items relating directly to the Engineering works. *4.2.3.2.3*

- A proportion of the Preliminary and General charges from the main contract, proportional to the cost of the Engineering works to the overall works (except for nominated sub-contracts). *4.2.3.2.4*

6. INTERIM ACCOUNTS

The following principles apply for all categories:

- Fees are claimable at the following stages:
  - Preliminary design stage — *2.2.1.1.2.1, 3.2.1.1.2, 4.2.1.1.2.1*
  - Design and tender stage — *2.2.1.1.2.2, 3.2.1.1.3, 4.2.1.1.2.2*
  - Completion of detail drawing stage — *2.2.1.1.2.3, 3.2.1.1.4.1*
- Fees are claimable during construction proportional to the cost of work completed. — *2.2.1.1.2.3.1&2, 3.2.1.1.4.2&3, 4.2.1.1.2.3.1&2*
- Prior to construction, fees should be based on the estimated contract amount (excluding contingencies, escalation and provisional amounts) calculated in accordance with principles relating to the ***cost of the works*** as defined above. For electrical and mechanical appointments relating to building works this would in effect be the value of the provisional sum allowed for these works plus allowance for P and G items (see section 3 on page 9) — *2.2.2.1.4, 3.2.2.1.4, 4.2.2.1.4*
- On award of tender the value of the accepted tender, the value of a negotiated tender or failing award, an agreed revised estimate should be used. — *2.2.2.1.1,2 or 3, 3.2.2.1,2 or 3, 4.2.2.1,2 or 3*
- During construction, fees are claimed as follows calculated in accordance with principles relating to the ***cost of the works*** as defined above:
  - Construction fees: proportional to the value of the works completed inclusive of escalation, — *2.2.1.1.2.3, 3.2.1.1.4.2, 4.2.1.1.2.3.1&2*
  - Pre-construction fees: the value as per the value of the accepted tender, or the value of a negotiated tender, plus the agreed escalation to date (to a limit of 10% of the original contract amount minus contingencies and VAT) plus any additional works approved during construction which required additional design by the Engineer and for which full specifications were furnished and which were not paid elsewhere. — *2.2.3.1, 3.2.3.1, 4.2.3.1*
- On completion of the contract the final fees are based on the following calculated in accordance with principles relating to the ***cost of the works*** as defined above:
  - Construction fees: value of the works completed inclusive of escalation. — *2.2.3.1, 3.2.3.1, 4.2.3.1*
  - Pre-construction fees: the value as per the value of the accepted tender, or the value of a negotiated tender, plus the agreed escalation to date (to — *2.2.3.1, 3.2.3.1, 4.2.3.1*

a limit of 10% of the original contract amount minus contingencies and VAT) plus any additional works approved during construction which required additional design by the Engineer and for which full specifications were furnished and which were not paid elsewhere. (Note: in normal circumstances the tender amount plus the changes during construction should equal the final contract amount).

The fees for reinforced concrete (table 2.3.1.1.2), structural steelwork (table 2.3.1.1.3) and schedules of quantity (tables 4.3.3.3.1 and 4.3.3.3.2) should be factored into the overall fees at the appropriate stage.

The fees for partial normal services would use the same rationale in terms of the value of work at the appropriate stage but using the percentages appropriate for partial normal services.

Throughout the Gazette the following terminology is used:

1. The **Basic Fee** is the fee obtained by multiplying the secondary fee percentage by the cost of the works and adding the primary fee.

   The basic fee may be increased or decreased by various factors depending on the type of the work included in the service.

   The basic fee is based on the ***current estimated value of the works*** and may change throughout the course of the contract.

2. An **Interim Fee** is a fee calculated for interim purposes based on the basic fee before the final contract amount is known.

3. The **Full Fee** is the final value of the fees calculated in the same way as the basic fee except using the ***actual final contract amount*** obtained at the end of the construction period.

   The sum of the interim fees may not be higher than the full fee.

It must be stressed that in all cases these fees refer to the percentage based fees appropriate to the project.

7. FACTORS INCREASING OR DECREASING PERCENTAGE FEES

The following factors increase or decrease the percentage based professional fees:

1. Civil, Structural, Mechanical, Electrical or Electronic Engineering Services for non-building projects

The reductions and increases are applicable in the calculation of the basic and final fees as described previously.

- Leader of the Professional Team: ***increase by 10%*** of the fees for each the other members of the team. *2.3.3.2*
- Postponement, cancellation or termination: the appropriate fees for the stage of the project at which this takes place ***plus 10%.*** *2.2.5.1*
- Railway track work: ***reduce by 50%*** of the value of the permanent way materials. *2.3.1.2.1*
- Work fragmented by category, treat each category separately. *2.3.1.6.1*
- Work fragmented location, timing or programming: treat each category separately by site, contract or phase and agree additional fee. *2.3.1.6.3*
- Roadworks: rural and peri-urban single carriageway roads ***reduce by 20%.*** *2.3.1.2.2*
- Roadworks: rural freeways and conventional double carriageway roads ***reduce by 5%.*** *2.3.1.2.2*
- Roadworks: peri-urban freeways and conventional double carriageway roads ***reduce by 5%.*** *2.3.1.2.2*
- Roadworks: urban freeways and conventional double carriageway roads ***increase by 25%.*** *2.3.1.2.2* *2.3.2.1.1*
- Water and wastewater treatment works ***increase by 25%.*** *2.3.1.3*
- For electronic services where systems are wholly proprietary designed ***reduce by 33.3%.*** *2.3.1.5.1.2* *2.3.2.2.2*
- For alterations to existing works ***increase by 25%.*** *2.3.1.7*
- Works making unusually high demands: ***increase to be by agreement.*** *2.2.3.1.2.1*
- Works making unusually low demands: ***decrease to be by agreement.*** *2.2.3.1.2.1*

2. Structural and Civil Engineering Services pertaining to building projects

The reductions and increase are applicable in the calculation of the basic and final fees as described previously.

- Principal Agent of the Client: ***increase by 1%*** of the final cost of the project. *3.3.3.2*
- Re-use of completed designs: see section 10 below. *3.2.1.3*
- Postponement, cancellation or termination: the appropriate fees for the stage of the project at which this takes place ***plus 10%.*** *3.2.5.1*
- Work fragmented by location, timing or programming: treat each component separately by site, contract or phase and agree additional fee. *3.3.1.2*
- Wet services ***increase by 25%.*** *3.3.1.3*
- For alterations to existing works ***increase by 25%.*** *3.3.1.4*
- Works making unusually high demands: ***increase to be by agreement.*** *3.3.2.1*
- Works making unusually low demands: ***decrease to be by agreement.*** *3.3.2.2*

3. Mechanical, Electrical and Electronic Engineering Services pertaining to building projects

The reductions and increases are applicable in the calculation of the basic and final fees as described previously.

- Principal Agent of the Client: ***increase by 1%*** of the final cost of the project. *4.3.3.2*
- Schedules of Quantities: additional fees. *4.3.3.1* *4.3.3.2*
- Re-use of completed designs: see section 10 below. *4.2.1.3*
- Postponement, cancellation or termination: the appropriate fees for the stage of the project at which this takes place ***plus 10%.*** *4.2.5.1*
- Variations to a lumps sum contract ***plus 2.5%*** of the variations. *4.3.1.2.4*
- Work fragmented by category, treat each category separately. *4.3.1.3.1*
- Work fragmented location, timing or programming: treat each category separately by site, contract or phase and agree additional fee. *4.3.1.3.2*
- Wet services ***increase by 25%.*** *4.3.1.4*
- For alterations to existing works ***increase by 25%.*** *4.3.1.5*

- Works making unusually high demands: ***increase to be by agreement.*** *4.3.2.1*
- Works making unusually low demands: ***decrease to be by agreement.*** *4.3.2.2*
- For electronic services where systems are wholly proprietary designed ***reduce to electrical fee scale.*** *4.3.2.2.2*

8. HOURLY FEES

1. What is the hourly tariff and how is it calculated?

The time charge is the same for all categories and is described in sections 2.3.4.1, 3.3.4.1 and 4.3.4.1. Originally in 1993 the figure of N$ 180-00 was given. In line with subsequent inflationary influence the figure currently stands at N$ 660-00 per hour excluding VAT.

It is important to note the following:

- The figure is a ***maximum*** for normal services, although it may be increased for specialist work, and applies only to Principals, Partners and Directors.

- Staff other than Principals, Partners and Directors are calculated at a rate of 17 cents per N$ 100 total annual remuneration with benefits (sections 2.3.4.2, 3.3.4.2 and 4.3.4.2)

  Example 1: If the employees total annual remuneration is N$ 264 705-89 the tariff will be:

  (264 705.89/100) x (0.17) = N$ 450-00 per hour

  Example 2: If the employees total remuneration is N$ 397 058-82 the tariff will be:

  (397 058-82/100) x (0.17) = N$ 675-00 per hour

  This is over the maximum so only N$ 660-00 would be claimed

- It is often difficult to know what an employee's annual remuneration will be due to the uncertainty of increases and bonuses. Some companies therefore round the figure down to a whole number for simplicity or use a previous years figures.

2. What projects only use the hourly tariff?

Projects that are based entirely on hourly tariffs include the following:

- Reports such as feasibility studies

- Very small, complex or disjointed projects

- Specialist assignments

3. When is the hourly tariff applicable on percentage-based projects?

In general the hourly tariff is used when the work required of the Engineer is no longer within the scope of services covered by the percentage fees.

The various options given within the gazette are listed below:

▪ For the provision of site supervision staff where required by the Client.	*2.1.2.1* *3.1.2.1* *4.1.2.1*
▪ For mediation, arbitration, litigation and the like.	*2.1.2.3* *3.1.2.3* *4.1.2.4*
▪ Enquiries not directly related to the works.	*2.1.2.4.1* *3.1.2.4.10* *4.1.2.5.11*
▪ Dealing with authorities other than local authorities.	*3.1.2.4.1* *4.1.2.5.1*
▪ Valuations and arrangement thereof.	*2.1.2.4.2*
▪ Arranging for servitudes etc.	*2.1.2.4.3* *3.1.2.4.3* *4.1.2.5.3*
▪ Arrangements regarding utilities (e.g. water or electricity supplies) not included in the works.	*2.1.2.4.4* *4.1.2.5.5*
▪ Amendments due to changed requirements of supply authorities.	*2.1.2.4.5* *3.1.2.4.4*
▪ Site surveys and investigations.	*2.1.2.4.6* *3.1.2.4.2* *4.1.2.4.2*
▪ Special investigations or tests.	*3.1.2.4.5* *4.1.2.5.6*
▪ Setting out of the works.	*2.1.2.4.7*
▪ Installation details and checking for fit.	*2.1.2.4.8* *3.1.2.4.6* *4.1.2.5.7*
▪ Inspection, review or checking of designs and details by others on the project (such as contractors proposals and the like).	*2.1.2.4.9* *3.2.1.4.7* *4.1.2.5.8*
▪ Attending site meetings more often than once per fortnight.	*3.1.2.4.8* *4.1.2.5.9*
▪ Provision of design calculations or designs to a local authority.	*2.1.2.4.10*
▪ All services arising from a contractor's failure to complete contract.	*2.1.2.4.11.1* *3.1.2.4.9.1* *4.1.2.5.10.1*
▪ Services performed that should have been performed by the contractor.	*2.1.2.4.11.2* *3.1.2.4.9.2* *4.1.2.5.10.2*
All services arising as a result of determining remedial measures, including site visits and resolving any disputes, as a result of the contractor's failure to comply with the specifications, drawings etc.	*2.1.2.4.11.3* *3.1.2.4.9.3* *4.1.2.5.10.3*

- The sourcing of required data not provided by the Client. *3.4.2.4.11 4.1.2.5.17*
- Re-use of completed designs. *3.2.1.3.1*
- Monitoring of any installed process or system. *2.1.2.4.12 4.1.2.5.12*
- Investigating or reporting on Client's tariffs. *2.1.2.4.13 4.1.2.5.13*
- The advanced ordering of materials. *2.1.2.4.14 4.1.2.5.14*
- Off site testing and inspection of materials. *2.1.2.4.15 4.1.2.4.15*
- Prior to the appointment of site staff. *2.2.1.3.5 3.1.2.4.12.1 4.1.2.5.23.1*
- Negotiating with supply authorities regarding tariffs. *4.1.2.5.16*
- Negotiating with a contract appointed other than by tender. *4.1.2.5.18*
- Additional work as a result of the use of second hand material. *4.1.2.5.19*
- Commissioning procedures. *4.1.2.5.20*
- Preparation of manuals and maintenance contracts. *4.1.2.5.21 4.1.2.5.22*
- Activity as a result of damage to the works. *2.2.4 3.2.4 4.2.4*
- Additional services as a result of postponement, cancellation or abandonment of the works. *2.2.5 3.2.5 4.2.5*
- Alterations or modification of designs due to unforeseen circumstances. *2.2.6 3.2.6 4.2.6*
- Travelling time where return trip exceeds 50 km. *2.3.5 3.3.5 4.3.5*

4. What staff may be billed at hourly tariffs?

All technical staff involved on the project may be billed at hourly rates should any of the listed circumstances occur.

Non-technical staff are not covered by the Gazette and agreement should be reached in their regard prior to any work commencing.

9. DISBURSEMENTS

A disbursement is an expense incurred as a result of the service provided by the Egineer.

In principal the Client is obligated to pay a disbursement provided that the disbursement:

- Is a necessary consequence of the work
- The cost incurred was reasonable

The Gazette lists the following categories of disbursements:

- Printing, copying etc *1.5.1*
- Legal, architectural etc advice *1.5.2*
- Surveys, site surveys etc *1.5.3*
- Faxes, telephone calls, postage etc *1.5.4*
- Accommodation and subsistence *1.5.5*
- Advertising *1.5.6*
- Special insurance *1.5.7*
- Charges imposed by competent authorities *1.5.8*

In an effort to simplify disbursements, the Department has prepared a schedule of acceptable disbursements.

10. COMMON ISSUES RELATING TO FEES

1. How should brickwork be treated?

For ***non-building*** appointments there is no mention in the Gazette of brickwork. It is assumed that any brickwork will be a minor component of the overall work for which no specific reference is required.

For ***building*** projects however the situation is different.

Sections 3.2.3.1.8 and 3.2.3.1.9 on page 45 include *brickwork designed and detailed by the Engineer* as well as *wall foundations designed and detailed by the Engineer* into the cost of the works for which percentage fees are calculated.

Section 3.3.2.2 on page 50 states that, where work makes *unusually low demands* on the Engineer, then an equitable lower fee should be *agreed* with the Client.

Foundation brickwork is considered to be an integral component of the foundation up to the damp course in the wall. If the Engineer is responsible for the foundations (and provides a design and details) then his responsibility is normally considered to include this section of foundation brickwork and the whole foundation is considered as work making ***normal*** demands on the Engineer. The full value of this brickwork should therefore be included.

Superstructure brickwork other than nominal brickwork, such as load-bearing brickwork, designed and detailed by the Engineer may be considered to have made low demands on the Engineer depending on the circumstances. In very straightforward cases where the demands are genuinely low, a reduction to 33% of the value of the brickwork has historically been agreed. This has also been applied where the Engineer is responsible for joints in brick walls, whether the walls are load bearing or not.

In order for a reduction in value of the brickwork to be applied it must first be agreed. The onus is on the Client to agree with the Engineer during the appointment phase and before any work is commenced.

2. What is copyright?

Copyright means exactly what the wording implies – the right to make copies. This is different to the intellectual property invested in what is being copied. Copyright is not the same as ownership.

When the Department pays an Engineer for a project, the Department has a 'copyright' on the **drawings**. This means that the Department may make copies of these drawings as they wish for the purposes originally intended in their contract with the Engineer. However, it must be remembered that the drawings are only the physical product of the design – the entire calculation process, analysis etc is not included on the drawings and remains the intellectual property of the Engineer. The Department therefore does **not have a copyright on the design of the buildings shown on the drawings**.

The drawings may not simply be issued to another Engineer for construction or used on a different site since the original Engineer owns the intellectual property. The Department must therefore pay the original Engineer for the reuse of his intellectual property.

If the department intends to re-use Engineering designs this must be made clear in the original appointment of the Engineer so that he can conduct his design and be recompensed accordingly – in other words he must be paid for the intellectual property as well as the copyright.

3. How should two or more identical buildings on one site be treated?

For ***non-building*** appointments there is no mention in the Gazette of the re-use of a design. It is assumed that any design will be unique to the site and therefore not be re-usable.

For ***building*** projects, the situation is covered in detail in section 3.2.1.3 on page 43.

Great care must be taken when deciding what work to treat on this basis. Firstly there must be a complete unit of some sort involved, not an element. That is to say a complete building, not for example a floor slab or a roof truss. Secondly the re-use must be entirely identical with the first use. If these criteria are met then the following applies if ***the same Engineer is responsible and the duplicate is on the same site as the original:***

- Items 3.2.1.3.1 refers to a factor of 25% of the apportioned fee to be paid for the re-use of documents. The documents are listed as any normal or additional services to be carried out for the report, preliminary design and design and tender stages.

- Items 3.2.1.1.1, 3.2.1.1.2 and 3.2.1.1.3 indicated a figure of 55% of the basic fee for these activities.

- In order to actually do the work, one would need working drawings and schedules. These are given in item 3.2.1.1.4.1 as being part of the construction phase at a further 30%.

- The correct approach would be to pay the consultant 25% of 55% of the basic fee plus 100% of 30% giving a total of 43.75%. The original fee for this work would have been 85% of the total fee.

- In addition the consultant must be paid in full for supervision.

Issues such as the design of foundations and roofs for different soil and wind conditions on different sites often mean that buildings cannot be simply re-used at ***different sites***. It might, for instance, be appropriate to redesign the foundations and roof but treat the remainder of a building as a re-use provided that it is identical in all other respects. In this instance the apportioned fee for the re-use would be based on the value of the building without the foundations or roof. The foundation and roof designs would be paid fully separately as well as the supervision. For obvious reasons site works are never considered in re-use since they always differ.

In the case of the building being repeated by ***the same consultant on separate sites*** therefore the following would apply:

- The reduction from 85% to 43.75% would only apply for the repeated work, not necessarily either the foundations or the roof.

- Site works for the new site would be payable in full.

- Any time adapting the drawings for the new site would be payable against hourly tariffs (item 3.2.1.3.2 on page 43).

When a ***different consultant is used for the supervision than for the design*** then the issue is even more complex as follows:

- The design consultant would have partial normal services type appointment and the design fees would increase to 25% of 60% plus 100% of 30% = 45% of the total fee (see section 4).

- The supervising Engineer would also have a partial appointment increasing the supervision fee to 30% (see section 4).

- The supervising Engineer would be paid at hourly tariffs to change the drawings to suit the new project and site, redesign the foundations and roof (if necessary), prepare a site plan and familiarise himself with the other consultant's drawings.

The sum of these costs may well exceed the full fee!

4. What happens when a contract is completed late or not at all?

Construction contracts include clauses regarding completion. If the contractor does not meet these completion criteria he has failed to complete his contract (until such time as he does finally complete the contract). The point at which it is acknowledged that he has failed is when penalties for late completion are applied.

The purpose of penalties is to compensate the Client for his damages – part of which will be the additional costs from the Engineer.

The Gazette is clear that in ***all categories***, ***all*** services required of the Engineer due to the contractor failing to complete the contract are claimable as Incidental Additional Services against hourly tariffs (items 2.1.2.4.11.1, 2.1.2.4.11.3, 3.1.2.4.9.1, 3.1.2.4.9.2, 4.1.2.5.10.1, 4.1.2.5.10.3).

The Gazette is also clear that, after penalties for late completion are applied, all work done by the Engineer becomes claimable at hourly tariffs (to be paid through the penalties applied on the contract).

This is obviously also the case should the contractor go bankrupt during the contract period.

5. Can the Engineer charge full fees for air-conditioning?

The Gazette does not indicate any reduction for multiple air conditioning installations.

If the Department feels that the installation of large numbers of air conditioners makes low demands on the consultant then this should be discussed and agreed during the appointment stage of a project. It must be remembered, however, that two apparently identical rooms probably have differing window layouts or orientations, which affect the calculations relating to the air conditioning. Each apparently identical unit may therefore well have a different design.

6. What work makes high or low demands?

Two current aspects are discussed above, superstructure brickwork designed by Engineers (e.g load bearing brickwork or brickwork where the Engineer has designed the joints) and multiple air-conditioning units.

The Gazette indicates that in all categories agreement can be reached for additional fees for work making higher than normal demands and reduced fees for work making lower than normal demands.

As an example, where electronic equipment is provided under an electronic appointment and the equipment is wholly designed by the supplier, this is classified as low demand on the Engineer and the fee is reduced by 33% (according to item 2.3.1.5.1.2, or from the electronic fee scale to the electrical fee scale according to item 4.3.2.2.2 which is also 33% less).

Work known to make higher demands (water and wastewater treatment, alterations to existing works) is rated at 25% higher than normal fees.

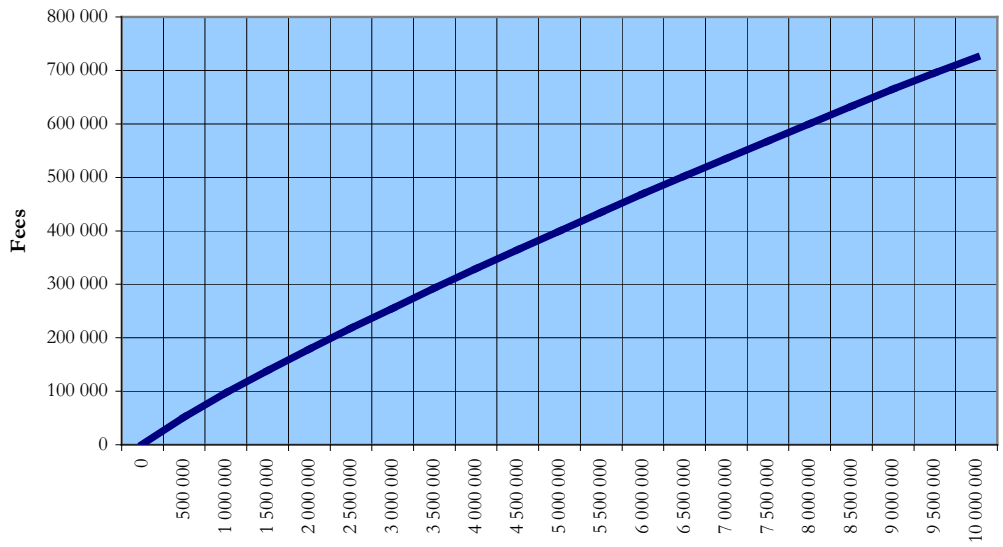
The Gazette indicates a range of – 50% to + 25% for low and high demand work respectively.

It must be stressed that careful consideration should be given before negotiating regarding low demand work. It must be remembered that there is a lot of high demand work for which no additional fees are agreed. If low demand work is emphasised by the Department then high demand work will also need to be identified and addressed.

11. FEE GRAPHS

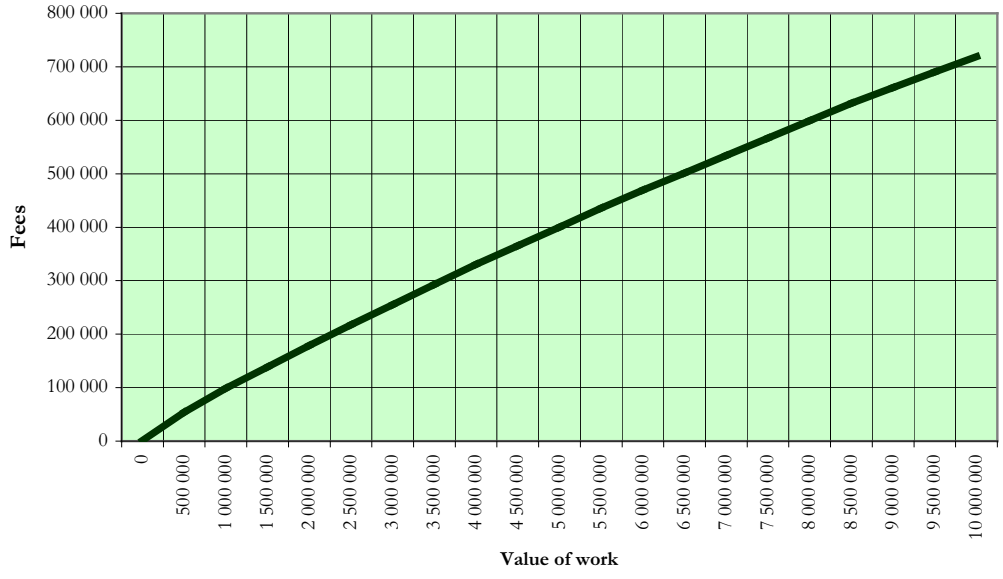
NON BUILDING PROJECTS
CIVIL AND STRUCTURAL BASIC FEES

Table 2.3.1.1.1



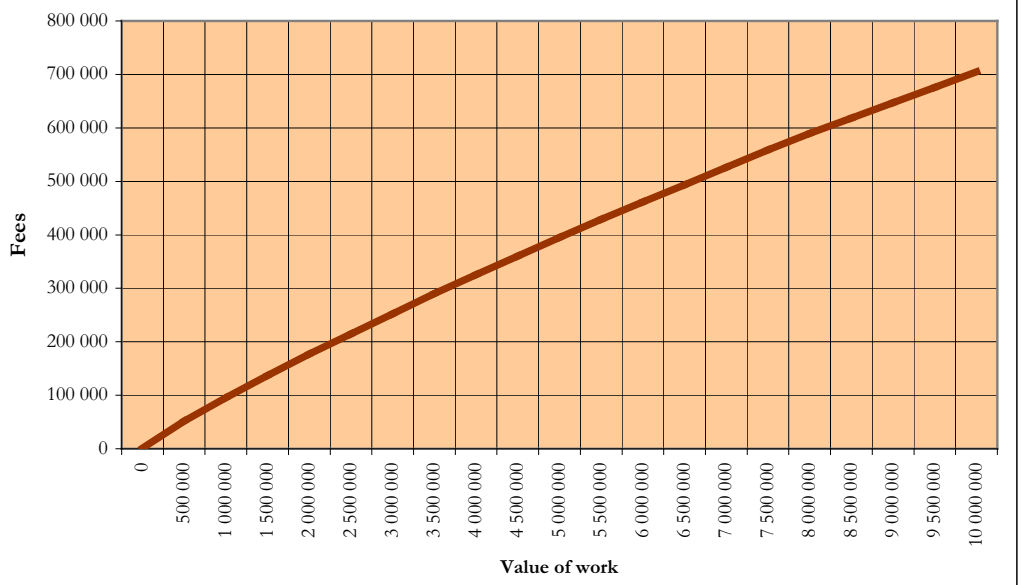
NON BUILDING PROJECTS
MECHANICAL BASIC FEES

Table 2.3.1.4.1



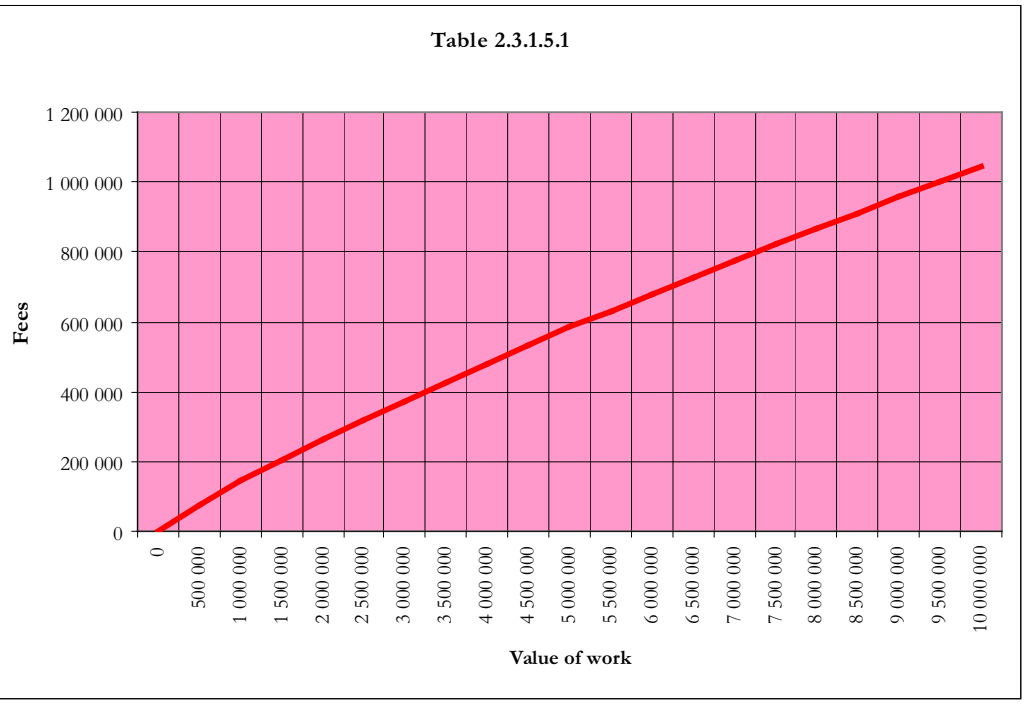
NON BUILDING PROJECTS
ELECTRICAL BASIC FEES

Table 2.3.1.4.2

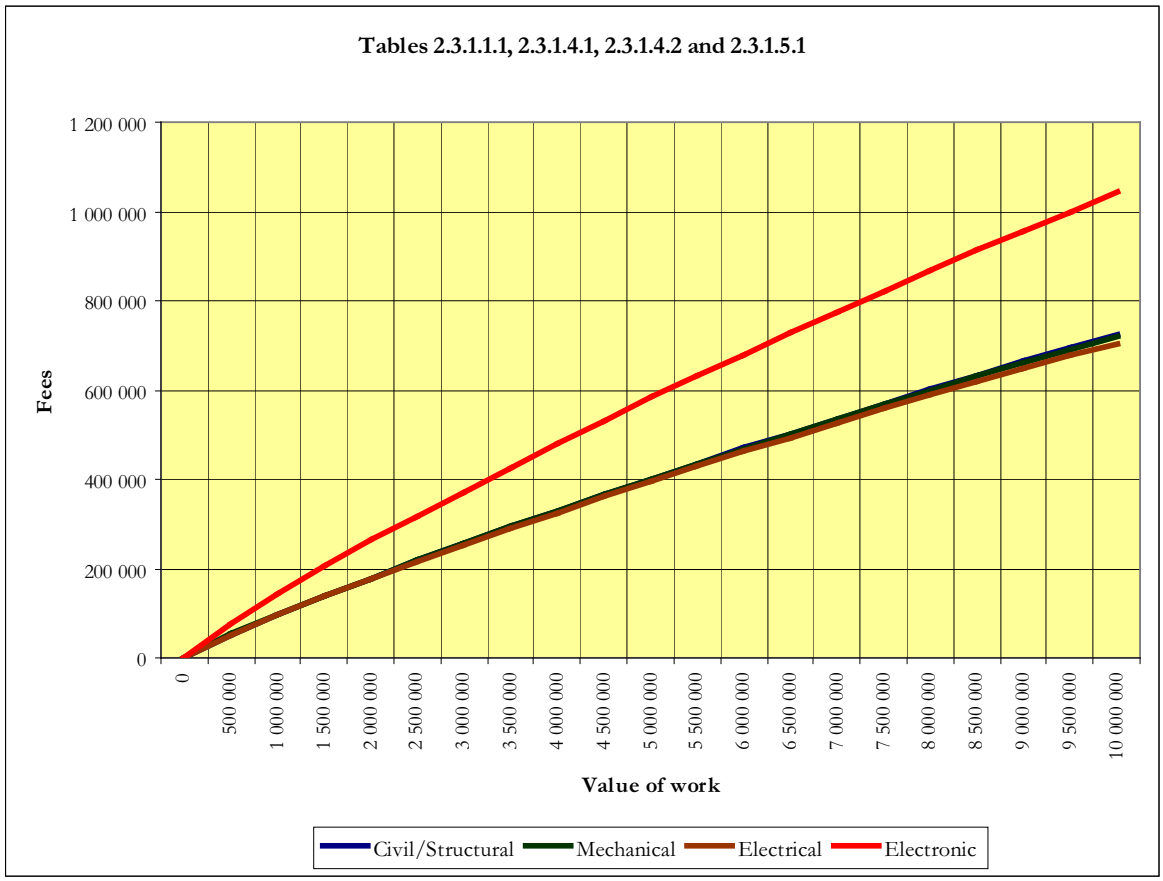


NON BUILDING PROJECTS
ELECTRONIC BASIC FEES

Table 2.3.1.5.1

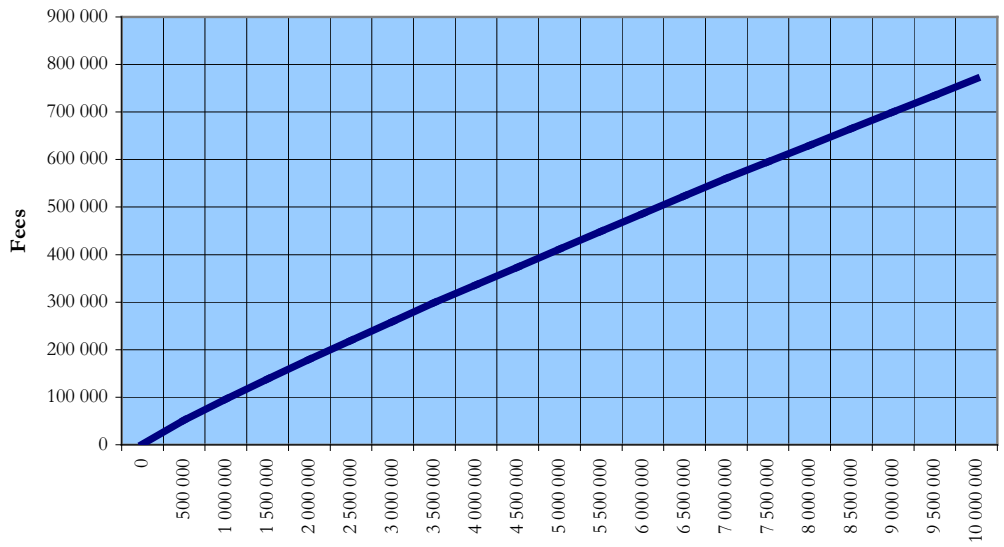


NON BUILDING PROJECTS
COMBINED CATEGORIES



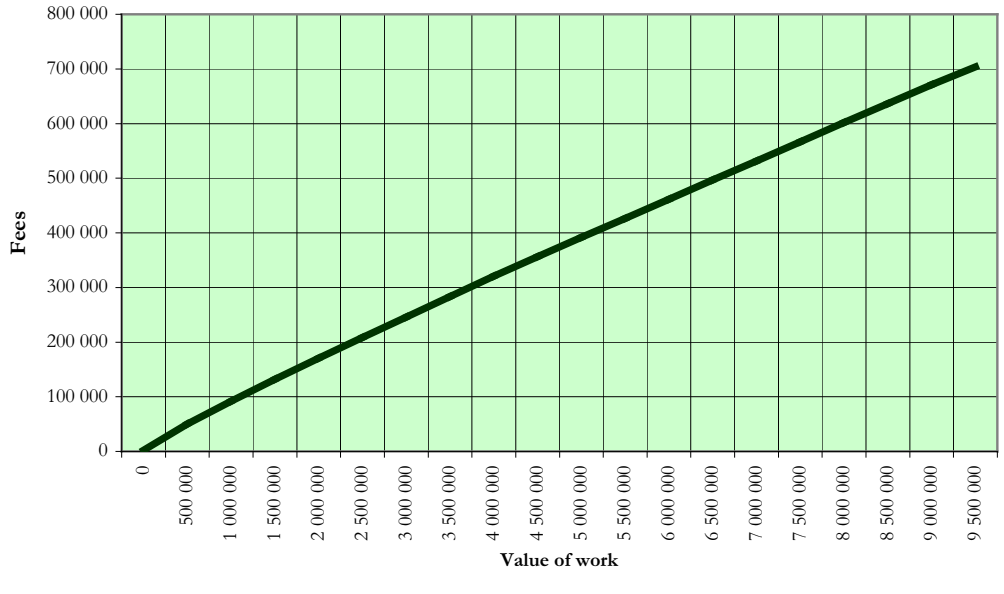
BUILDING PROJECTS
STRUCTURAL AND CIVIL BASIC FEES

Table 3.3.1.1



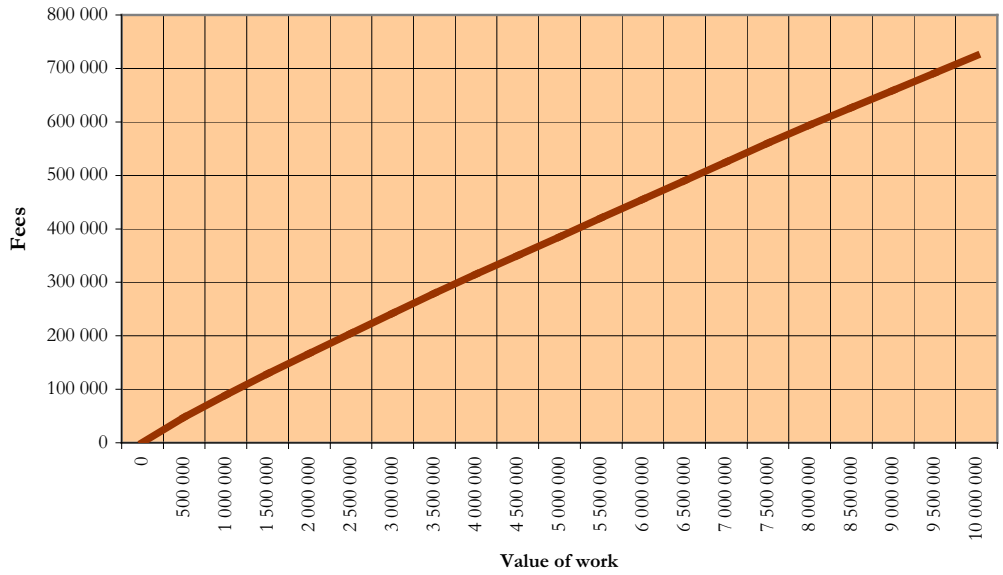
BUILDING PROJECTS
MECHANICAL BASIC FEES

Table 4.3.1.1.1



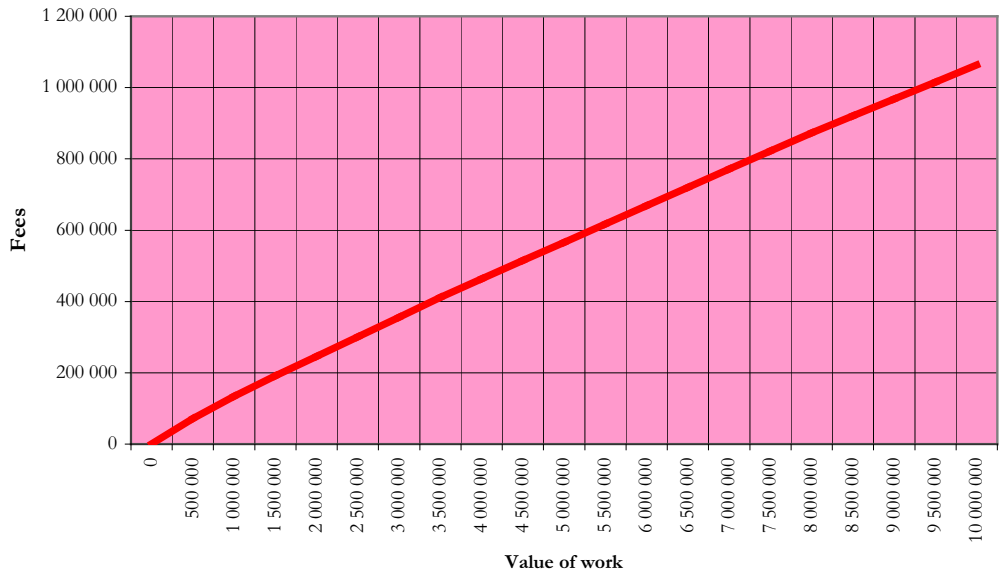
BUILDING PROJECTS
ELECTRICAL BASIC FEES

Table 4.3.1.1.2



BUILDING PROJECTS
ELECTRONIC BASIC FEES

Table 4.3.1.2.1



NON BUILDING PROJECTS
COMBINED CATEGORIES